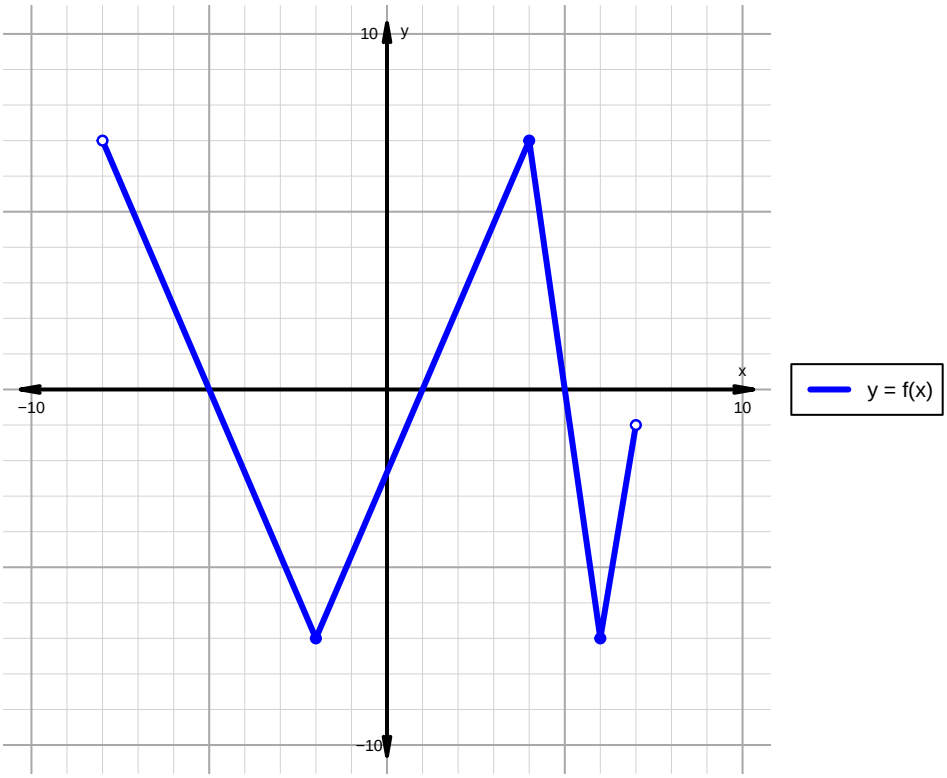
Name: Date:

Intervals, Transformations, and Slope Solution (version 103)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-8,-5)\cup(1,5)$
Negative	$(-5,1)\cup(5,7)$
Increasing	$(-2,4)\cup(6,7)$
Decreasing	$(-8,-2)\cup(4,6)$
Domain	$(-8,7)$
Range	$(-7,7)$

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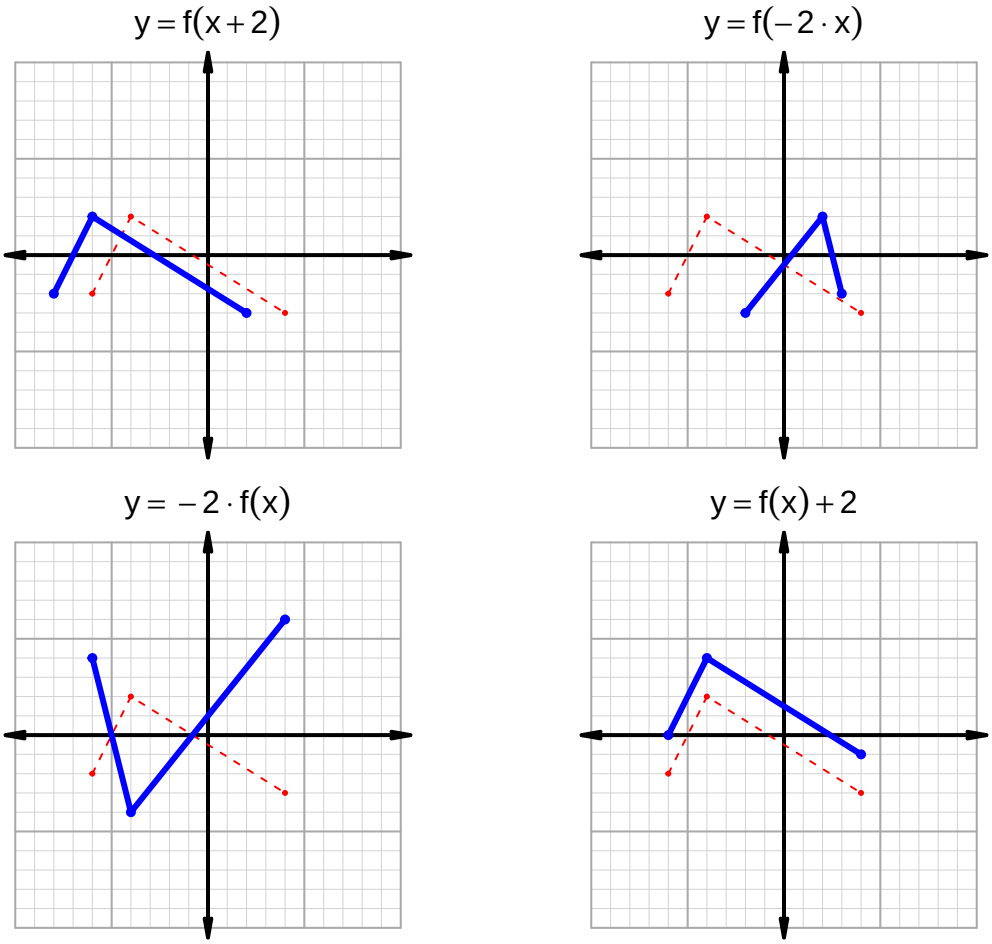
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 62$ and $x_2 = 86$. Express your answer as a reduced fraction.

x	$g(x)$
19	62
51	86
62	51
86	19

$\frac{f(86)-f(62)}{86-62} = \frac{19-51}{86-62} = \frac{-32}{24}$

The greatest common factor of -32 and 24 is 8. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-4}{3}$$